TRANSMITTAL OF APPEAL BRIEF (Small Entity)

Docket No.
GENP:101_US_

In Re Application Of: **Richard C. PAYNE**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
09/893,633	06/27/2001	Clement B. Graham	24041	3692	5630

Invention: **COMPUTER BASED SYSTEM FOR VALUING AND HEDGING CUSTOMIZED INDEXED CALL OPTION**

COMMISSIONER FOR PATENTS:

Transmitted herewith is the Appeal Brief in this application, with respect to the Notice of Appeal filed on:

November 13, 2007

☐ Applicant claims small entity status. See 37 CFR 1.27

The fee for filing this Appeal Brief is: **$255.00**

☒ A check in the amount of the fee is enclosed.

☐ The Director has already been authorized to charge fees in this application to a Deposit Account.

☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. **50-0822** . I have enclosed a duplicate copy of this sheet.

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/C. Paul Maliszewski/

Signature

Dated: **Jan. 3, 2008**

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I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to "Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450" [37 CFR 1.8(a)] on

Jan. 3, 2008
(Date)

/C. Paul Maliszewski/

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Typed or Printed Name of Person Mailing Correspondence

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Patent Application No.: 09/893,633 Confirmation No.: 5630

Appellant(s): PAYNE, Richard C.

For: **COMPUTER BASED SYSTEM FOR VALUING AND HEDGING CUSTOMIZED INDEXED CALL OPTION**

Filed: June 27, 2001

TC/Art Unit: 3692

Examiner: GRAHAM, Clement B.

Docket No.: GENP:101_US_

Customer No.: 24041

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I certify that this Brief on Appeal is being deposited on January 3, 2008 with the U.S. Postal Service as first class mail under 37 C.F.R. §1.8 and is addressed to the Commissioner for Patents, PO Box 1450, Alexandria, VA 22313-1450.

/C. Paul Maliszewski/

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BRIEF ON APPEAL UNDER 37 C.F.R. § 41.37

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Honorable Sir:

Appellant respectfully appeals the decision of the Primary Examiner to reject Claims 1-23, as set forth in the Office Action dated October 18, 2007. A check in the amount of $255.00 is enclosed for filing a Brief in support of an Appeal. A Notice of Appeal was filed on November 13, 2007 along with payment of an Appeal fee in the amount of $255.00.

A **Claims Appendix** follows Page 43 of this paper.

An **Evidence Appendix** follows Page 50 of this paper.

A **Related Proceedings Appendix** follows Page 51 of this paper.

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REAL PARTY IN INTEREST

The real party in interest is Genesis Financial Products, Inc., Assignee of the above application by assignment recorded in the Patent and Trademark Office at Reel 012349, Frame 0860.

RELATED APPEALS AND INTERFERENCES

Upon information and belief, no appeals or interferences are known to Appellant, which will directly affect or be directly affected by or have a bearing on the Board's decision in this appeal.

STATUS OF CLAIMS

Claims 1-23 are currently subject to examination.

Claims 1-23 stand as finally rejected.

Claims 1-23 are the subject of this Appeal.

STATUS OF AMENDMENTS

Claims 1, 6-10, 17, and 20 were amended in an Amendment and Request for Reconsideration filed November 13, 2007, concurrent with the Notice of Appeal for the instant application.

SUMMARY OF CLAIMED SUBJECT MATTER

The present invention relates generally to financial products, more specifically to computer-based systems for pricing and valuing financial products, and, even more particularly, to computer-based systems for valuing a customized indexed call option.

1) Claim 1

Claim 1 recites a computer-based method for determining a value of a customized indexed call option. *See generally* Page 4, Paragraph [0013], Lines 10-12; *also* Paragraph [0014] – [0020]. The method includes: selecting, using a processor in at least one specially programmed computer, a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between

a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry, wherein the first lattice node, the second lattice node, the first epoch, and the second epoch are stored in a memory element for the at least one computer, wherein the first lattice node, the second lattice node, the first epoch, and the second epoch are stored in a memory element for the at least one computer, *see generally* paragraphs [0033] through [0036], [0090], and [0091], in particular, page 12, paragraph [0036], lines 5-9; searching, using the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option, *see generally* paragraphs [0012], [0043], [0068], [0069], [0071], [0072], [0088], and [0089]; interpolating, using the processor, in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option, stored in the memory element, to find said value, *see generally* paragraphs [0040], [0041], [0055] to [0059], [0088], and [0089]; and presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate, *see generally* paragraph [0018] and source code file amdrv23p.pas.

2) Claim 4

Claim 4 recites an article of manufacture having a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts *n0* and *n1* at specified intervals within the term such that $n0 \geq 0$, $n1 \geq 0$, and $n0+n1 \leq n$, while guaranteeing nonnegative total credited interest over the term. *See generally* Page 4, Paragraph [0014], Lines 13-17. The interest credited on the notional amount *n0* is based upon an arbitrary but specified nonzero interest rate. The interest on the notional amount *n1* is credited based on changes in a specified index. *See generally* Page 4, Paragraph [0014], Lines 17-20.

3) Claim 5

Claim 5 recites an article of manufacture having a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts n_i at specified intervals within the term such that i is an integer such that $0 \leq i \leq k$, $n_i \geq 0$, and $\Sigma n_i \leq n$, while guaranteeing nonnegative total credited interest over the term. *See generally* Page 4, Paragraph [0014], Lines 13-17. The interest credited on the notional amount n_0 is based upon an arbitrary but specified nonzero interest rate. The interest on the notional amount n_i, $i \geq 1$, is credited based on changes in specified index i, where k, the number of specified indices, is an integer greater than or equal to one. *See generally* Page 4, Paragraph [0014], Lines 17-20.

4) Claim 6

Claim 6 recites a computer-based method for determining a value of a customized indexed annuity with guaranteed return amount G. The computer-based method includes determining a value of a customized indexed call option. *See generally* Page 11, Paragraph [0033], Lines 14-16. The computer-based method also includes determining a present value of the guaranteed return amount G. *See generally* Page 13, Paragraph [0040], Lines 2-5.

5) Claim 7

Claim 7 recites a computer-based method for determining a value of a customized indexed certificate of deposit with guaranteed return amount G. The computer-based method includes determining a value of a customized indexed call option. *See generally* Page 11, Paragraph [0033]-[0034], Lines 14-22. The computer-based method also includes determining a present value of the guaranteed return amount G. *See generally* Page 13, Paragraph [0040], Lines 2-5.

6) Claim 8

Claim 8 recites a computer-based method for determining a value of a customized indexed life insurance policy with guaranteed return amount G. The computer-based method includes determining a value of a customized indexed call option. *See generally* Page 11, Paragraph [0033]-[0034], Lines 14-22. The computer-based method also includes determining a present value of the guaranteed return amount G. *See generally* Page 13, Paragraph [0040], Lines 2-5.

7) Claim 9

Claim 9 recites a computer-based method for determining a value of a customized indexed bond with guaranteed return amount G. The computer-based method includes determining a value of a customized indexed call option. *See generally* Page 11, Paragraph [0033]-[0034], Lines 14-22. The computer-based method also includes determining a present value of the guaranteed return amount G. *See generally* Page 11, Paragraph [0040], Lines 2-5.

8) Claim 10

Claim 10 recites a computer-based method for determining a value of a customized indexed call option. The computer-based method includes generating a first sample of index paths based on a first set of predetermined parameters. *See generally* Page 11, Paragraph [0032], Lines 10-12; *also* Page 34, Paragraph [0101]. The computer-based method also includes determining an optimal choice boundary maximizing an intermediate value of the customized indexed call option for such first sample of index paths. *See generally* paragraphs [0012], [0043], [0068], [0069], [0071], [0072], [0088], and [0089]. The computer-based method also includes determining the value of the customized indexed call option from the determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters. *See* Page 35, Paragraph [0103], Lines 1-8; Page 38, Paragraph [0113], Lines 20-23; Page 39, Paragraph [0113], Lines 1-14.

9) Claim 17

Claim 17 recites an apparatus for determining a value of a customized indexed call option. *See generally* Page 4, Paragraph [0013], Lines 10-12; *also* Paragraph [0014] – [0020]. The apparatus includes: means for selecting a range, the means for selecting including a processor in at least one specially programmed computer, from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry wherein the first lattice node, the second lattice node, the first epoch, and the second epoch are stored in a memory element for the at least one computer, *see generally* paragraphs

[0033] through [0036], [0090], and [0091], in particular, page 12, paragraph [0036], lines 5-9; means for searching, the means for searching including the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option, *see generally* paragraphs [0012], [0043], [0068], [0069], [0071], [0072], [0088], and [0089]; means for interpolating, the means for interpolating including the processor, in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option to find said value, *see generally* paragraphs [0040], [0041], [0055] to [0059], [0088], and [0089]; and means for presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate, *see generally* paragraph [0018] and source code file amdrv23p.pas. Also, *see generally* the computer program on compact disc in ASCII text files, created on June 22, 2001 and submitted with the application.

10) Claim 20

Claim 20 recites an apparatus for determining a value of a customized indexed call option. The apparatus includes a means for generating a first sample of index paths based on a first set of predetermined parameters. *See generally* Page 11, Paragraph [0032], Lines 10-12; *also* Page 34, Paragraph [0101]. The apparatus also includes a means for determining an optimal choice boundary maximizing an intermediate value of said customized indexed call option for such first sample of index paths. *See generally* paragraphs [0012], [0043], [0068], [0069], [0071], [0072], [0088], and [0089]. The apparatus also includes a means for determining said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters. *See* Page 35, Paragraph [0103], Lines 1-8; Page 38, Paragraph [0113], Lines 20-23; Page 39, Paragraph [0113], Lines 1-14. Also, *see generally* the

computer program on compact disc in ASCII text files, created on June 22, 2001 and submitted with the application.

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1) Whether Claims 1, 6-10, 17, and 20 under 35 U.S.C. §101 are directed to non-statutory subject matter?

2) Whether Claims 1 and 17 under 35 U.S.C. §112, second paragraph are indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention?

3) Whether Claims 1-23 under 35 U.S.C. §102(b) are anticipated by U.S. Patent No. 7,024,384 (Daughtery)?

4) Whether the language "presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option," as recited in Claims 1, 6-10, 17, and 20 is limiting?

ARGUMENT

1) Whether Claims 1, 6-10, 17, and 20 under 35 U.S.C. §101 are directed to non-statutory subject matter?

A) Summary of the Rejection:

The Examiner stated in the Office Action of October 18, 2007 (herafter referred to as the "Office Action"): "Claims 1,6-10, 17,20, are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Applicant's claims are directed to an algorithm. Specifically, claim 1 recites "selecting","searching" and "presenting", however these steps are mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve,

for example) and abstract ideas without a practical application are found to be non-statutory subject matter. Therefore, Applicant's claims are non-statutory as they do not produce a useful, concrete and tangible result."

B) Brief description of the reference cited by the Primary Examiner

35 U.S.C. §101 states: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title."

C) Arguments

1) Claim Amendments

In response to the rejection under 35 U.S.C. §101, Claims 1, 6-10, 17, and 20 were amended to explicitly recite structural and functional interrelationships with the hardware and software of a computer. In particular, the claims have been amended to recite respective structural and functional interrelationships with processors, memory elements, and graphical user interface elements. The amendments are supported as follows:

"If the claim preamble, when read in the context of the entire claim, recites limitations of the claim, or, if the claim preamble is 'necessary to give life, meaning, and vitality' to the claim, then the claim preamble should be construed as if in the balance of the claim." *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305, 51 USPQ2d 1161, 1165-66 (Fed. Cir. 1999). See also *Jansen v. Rexall Sundown, Inc.*, 342 F.3d 1329, 1333, 68 USPQ2d 1154, 1158 (Fed. Cir. 2003)" MPEP 2111.02.

In general, since the respective preambles of the claims recite computer-based methods or apparatus, it is inherent, if not explicit, that the method steps or apparatus means use computers and are executed by computers. Further, the claims all recite very concrete interrelationships that result in an option that is presented to a client for action by the client. Also, the source code submitted with the application clearly details the interrelationships. Further, the source code in general makes it is clear that the present invention is executed by a computer, including interrelationships among present invention and the hardware and software inherent in the computer.

The following is further exemplary support in the specification of the instant application for the claim amendments:

Using a processor in a computer to select a range, for example as recited in Claim 1, element (a), follows from paragraphs [0033], [0034], and [0035], and from paragraphs [0090] and [0091], which describe testing the CPU for the presence or absence of the SIMD (Single Instruction Multiple Data) instruction set. Storage of lattice nodes and epochs, for example, as recited in Claim 1 (a), follows from paragraphs [0036] through [0039] of the specification, describing how the values are filled in, and from paragraphs [0088] and [0089], describing how nodes and epochs are used.

Using a processor to search, for example, as recited in Claim 1 element (b), is supported by paragraphs [0068] and [0069] in the specification, which describe some of the hardware efficiency considerations for a Pentium III processor. It is also supported by paragraph [0088] in the specification, which describes a function and gives a prototype for it - clearly showing that the function is not merely a mathematical function but is an effective procedure intended to be executed on a computer. Location of a lattice in the memory element, for example, as recited in Claim 1 (b), also supported by paragraph [0088] in the specification, by the references to the pointer variables lat and ep. It is well known programming terminology that "pointers" are references to specific locations in a computer's memory.

Using a processor to interpolate, for example, as recited in Claim 1 element (c), is supported by paragraph [0088] of the specification, which describes a Delphi function linearly interpolating option values on the state variable x and then linearly interpolating the just-obtained values on the index value s. It is also supported by paragraph [0089], which describes a Delphi function linearly interpolating option values on rt, the square root of the time to expiry t of the option.

Displaying an option on a graphical user interface is supported by source code file amdrv23p.pas, which performs windowed input and output processing.

The above amendments are supported by paragraphs [0088] and [0089] and the source code for the present application. In particular, starting at line 1327 of am23.dpr, we have the following source code:

```
"function getValueAtEpoch(s: double; x: double; const lat: PLattice;
                    const ep: PEpoch): double; var
  pts1, pts2: PLine;
  ps: pointer;
  s1, s2, p, px, v1, v2, va: double;
  xi: integer;
begin
  s := max(s, 1.0001*ep.mins);
  s := min(s, 0.9999*ep.maxs);
  x := max(x, lat.minx+0.0001);
  x := min(x, lat.maxx-0.0001);
  binarySearch(@ep.stockVals[0],@ep.bdeltas,s,ps);
  pts1 := PLine(ps);
  pts2 := PLine(Pointer(Cardinal(ps)+sizeof(TLine)));
  s1 := pts1.si;
  s2 := pts2.si;
  p := (s-s1) / (s2-s1);
  xi := floor((x-lat.minx)*lat.rhx);
  px := lat.rhx*(x-lat.xvec[xi]);
  v1 := (1-px)*pts1.v[xi] + px*pts1.v[xi+1];
  v2 := (1-px)*pts2.v[xi] + px*pts2.v[xi+1];
  va := (1-p)*v1 + p*v2;
  Result := va;
end;
function getValue(const s: double; const x: double; t: double;
            const lat: PLattice): double; var
  ep1, ep2: cardinal;
  v1, v2, p: double;
```

```
  rt, rt1, rt2, hrt: double;
begin
  t := min(t,lat.tmax-0.0001);
  ep1 := (lat.nepochsint-1) - cardinal(floor(t*lat.rhtint));
  ep2 := ep1 - 1;
  rt := sqrt(t);
  rt1 := lat.epochs[ep1].rtim;
  rt2 := lat.epochs[ep2].rtim;
  hrt := rt2-rt1;
  p := (rt - rt1) / hrt;
  v1 := getValueAtEpoch(s, x, lat, @lat.epochs[ep1]);
  v2 := getValueAtEpoch(s, x, lat, @lat.epochs[ep2]);
  Result := (1-p)*v1 + p*v2;
end;"
```

No new matter was added.

2) Claims 1, 6-10, 17, and 20

"Computer programs are often recited as part of a claim. USPTO personnel should determine whether the computer program is being claimed as part of an otherwise statutory manufacture or machine. In such a case, the claim remains statutory irrespective of the fact that a computer program is included in the claim. *The same result occurs when a computer program is used in a computerized process where the computer executes the instructions set forth in the computer program.*" (emphasis added) (MPEP 2106 IV B(a))

Each of the above claims has been amended to more clearly recite the interconnection of a computer program and a machine (computer) and the execution of instructions by a computer.

The following excerpt is from MPEP 2106.01 I:

"In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be

realized, and is thus statutory. See *Lowry*, 32 F.3d at 1583-84, 32 USPQ2d at 1035."

The above claims recite a data structure that defines structural interrelationships between a processor, memory element, and graphical user interface (GUI). Further, the data structure recites functional interrelationships between the data structure and computer software and hardware. For example, in Claim 1, the processor performs various operations such as selecting, searching, and interpolating that involve the software and hardware. The interrelationships permit the data structure's functionality, which ultimately results in an option that can be acted upon by a holder.

For all the reasons noted above, Claims 1, 6-10, 17, and 20 are directed to statutory subject matter under 35 U.S.C. §101.

2) Whether Claims 1 and 17 under 35 U.S.C. §112, second paragraph are indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention?

A) Summary of the Rejection:

The Examiner stated: "Claim 1 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing 2 to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, Claim 1 lines 4-5 states "determine at least one intermediate value", it is unclear how one would determine one intermediate value of said customized index call option. . .". For further examination, the examiner interprets the limitation in light of this 112, second rejection.

In particular, Claim 17 lines 2-3 states "determine at least one intermediate value", it is unclear how one would determine one intermediate value of said customized index call option ...". For further examination, the examiner interprets the limitation in light of this 112, second rejection."

B) Brief description of the reference cited by the Examiner

35 U.S.C. 112 Specification states: "The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most

nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

A claim may be written in independent or, if the nature of the case admits, in dependent or multiple dependent form.

Subject to the following paragraph, a claim in dependent form shall contain a reference to a claim previously set forth and then specify a further limitation of the subject matter claimed. A claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers.

A claim in multiple dependent form shall contain a reference, in the alternative only, to more than one claim previously set forth and then specify a further limitation of the subject matter claimed. A multiple dependent claim shall not serve as a basis for any other multiple dependent claim. A multiple dependent claim shall be construed to incorporate by reference all the limitations of the particular claim in relation to which it is being considered.

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof."

C) Arguments

1) Claim Amendments

Appellant reaffirms, but for the sake of brevity, do not repeat the arguments of record regarding this rejection. However, in the interest of expediting prosecution, Claim 1 was amended , in the November 13, 2007 paper, to recite: "searching, using the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value

comprising at least one intermediate value of said customized indexed call option;" and Claim 17 was amended, in the November 13, 2007 paper, to recite: "means for searching, the means for searching including the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option;"

The above amendments are supported by paragraphs [0088] and [0089] and the source code for the present application. In particular, starting at line 1327 of am23.dpr, we have the following source:

```
"function getValueAtEpoch(s: double; x: double; const lat: PLattice;
                const ep: PEpoch): double; var
  pts1, pts2: PLine;
  ps: pointer;
  s1, s2, p, px, v1, v2, va: double;
  xi: integer;
begin
  s := max(s, 1.0001*ep.mins);
  s := min(s, 0.9999*ep.maxs);
  x := max(x, lat.minx+0.0001);
  x := min(x, lat.maxx-0.0001);
  binarySearch(@ep.stockVals[0],@ep.bdeltas,s,ps);
  pts1 := PLine(ps);
  pts2 := PLine(Pointer(Cardinal(ps)+sizeof(TLine)));
  s1 := pts1.si;
  s2 := pts2.si;
  p := (s-s1) / (s2-s1);
  xi := floor((x-lat.minx)*lat.rhx);
  px := lat.rhx*(x-lat.xvec[xi]);
```

```
  v1 := (1-px)*pts1.v[xi] + px*pts1.v[xi+1];
  v2 := (1-px)*pts2.v[xi] + px*pts2.v[xi+1];
  va := (1-p)*v1 + p*v2;
  Result := va;
end;
function getValue(const s: double; const x: double; t: double;
          const lat: PLattice): double; var
  ep1, ep2: cardinal;
  v1, v2, p: double;
  rt, rt1, rt2, hrt: double;
begin
  t := min(t,lat.tmax-0.0001);
  ep1 := (lat.nepochsint-1) - cardinal(floor(t*lat.rhtint));
  ep2 := ep1 - 1;
  rt := sqrt(t);
  rt1 := lat.epochs[ep1].rtim;
  rt2 := lat.epochs[ep2].rtim;
  hrt := rt2-rt1;
  p := (rt - rt1) / hrt;
  v1 := getValueAtEpoch(s, x, lat, @lat.epochs[ep1]);
  v2 := getValueAtEpoch(s, x, lat, @lat.epochs[ep2]);
  Result := (1-p)*v1 + p*v2;
end;"
```

No new matter was added.

2) Claims 1 and 17

The above amendments clearly recite the step of identifying one or more values in a data structure that are included in the range selected in the first element of the claim. That is, the range is applied to the data structure to identify certain values in the structure. As noted *supra*, further

explanation is given in paragraphs [0088] and [0089] and the source code for the present application, in particular, the code starting at line 1327 of am23.dpr.

Appellant respectfully submits that amended Claims 1 and 17 particularly point out and distinctly claim the subject matter which Appellant regards as the invention and are therefore definite under 35 U.S.C. 112, second paragraph.

3) Whether Claims 1-23 under 35 U.S.C. §102(b) are anticipated by U.S. Patent No. 7,024,384 (Daughtery)?

A) Summary of the Rejection:

1) Claim 1

The Examiner stated in the Office Action: "As per claim 1, Daughtery, Ill discloses a) selecting a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry; b) (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-6 lines l-40); b) searching a lattice data structure based on said range from the group a search criterion to determine at least one intermediate value of said customized indexed call option; c) interpolating in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option to find said value; and, d) presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate. (Note abstract and see column 6 lines 31-67 and column 7 lines-8 lines 1-76)."

2) Claims 4-11

The Examiner stated in the Office Action: "As per claim 4, Daughtery, Ill discloses an article of manufacture comprising a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts no and nl at specified intervals within the term such that nO>=O, nl>=O, and now1 < - n, while guaranteeing nonnegative total credited interest over the term, where interest credited on the notional amount no is based upon an arbitrary but specified nonzero interest rate, and interest on the notional amount nl is credited based on changes in a specified index. (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-6 lines 1-30).

As per claim 5, Daughtery, Ill discloses an article of manufacture comprising a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts n, at specified intervals within the term such that i is an integer such that 0 < i < 41 k, n,-70, and En, <- n, while guaranteeing nonnegative total credited interest over the term, where interest credited on the notional amount no is based upon an arbitrary but specified nonzero interest rate, and interest on the notional amount n,, i > 1, is credited based on changes in specified index i, where k, the number of specified indices, is an integer greater than or equal to one. (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-6 lines-22).

As per 6, Daughtery, Ill discloses a method for determining a value of a customized indexed annuity with guaranteed return amount *G,* comprising: a) determining a value of a customized indexed call option; and b) determining a present value of the guaranteed return amount G; and, c) presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate. (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-6

lines1 -40).

As per claim 7, Daughtery, Ill discloses a computer-based method for determining a value of a customized indexed certificate of deposit with guaranteed return amount G, comprising: a) determining a value of a customized indexed call option; and b) determining a present value of the guaranteed return amount G; and, c) presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate. (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-26 lines l-40).

As per 8, Daughtery, Ill discloses a computer-based method for determining a value of a customized indexed life insurance policy with guaranteed return amount G, comprising: a) determining a value of a customized indexed call option; and b) determining a present value of the guaranteed return amount G; and, c) (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-26 linesl-40)presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate. see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67).

As per claim 9, Daughtery, Ill discloses a computer-based method for determining a value of a customized indexed bond with guaranteed return amount G, comprising: a) determining a value of a customized indexed call option; b) determining a present value of the guaranteed return amount G: and, c) presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate see column 11 lines 20-37 and column 12 lines 1-67

and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-26 lines 1-19).

As per claim 10, Daughtery, Ill discloses computer-based method for determining a value of a customized indexed all option, comprising: a) generating a first sample of index paths based on a first set of predetermined parameters; b) determining an optimal choice boundary maximizing an intermediate value of said customized indexed call option for such first sample of index paths; and c) (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-6 lines 1-40) determining said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters; and, d) presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate. (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67).

3) Claim 17

The Examiner stated in the Office Action: "As per claim 17, Daughtery, Ill discloses an apparatus for determining a value of a customized indexed call option: a) means for selecting a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry; (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-26 lines 1-40) b) means for searching a lattice data structure based on said range from the group a search criterion to determine at least one intermediate value of said customized indexed call option; c) means for interpolating in said at least one intermediate value of said customized indexed call option based on a set of predetermined

parameters of the customized indexed call option to find said value;and, d) means for presenting an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized

indexed call option comprises a term and an index linkage to an index and a constant growth rate. see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-26 lines 1-40)."

4) Claim 23

The Examiner stated in the Office Action: "As per claim 23, Daughtery, III discloses wherein said means for determining said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters comprises a specially programmed general purpose computer. (see column 11 lines 20-37 and column 12 lines 1-67 and column 18 lines 1-67 and column 20 lines 43-67 and column 21-23 lines 1-67 and column 24 lines 1-67 and column 25-26 lines 1-13)."

B) Brief description of the reference cited by the Primary Examiner

U.S. Patent No. 7,024,384 (Daughtery) teaches an apparatus and process which may be implemented on a vast variety of computer systems. The apparatus and process of the present invention use a computer system to receive and store data representative of a particular asset, a type of option (call or put), requested exercise price and a multitude of other variables related to the asset. The apparatus and process then generate data representative of an option premium. The data representative of the option may then be used for transacting an option, as the basis for determining a correlated expiring option premium, or to determine the premium of an asset relatable to a corresponding option.

More specifically, Daughtery discloses a "timeless" or "expirationless option." For example: "Therefore, there exists a need in the art for a technique to limit the risk that an option purchaser must assume, which at the same time, is not unfair to the option Seller. More specifically, there exists a need in the art for an apparatus and process for calculating an option which is not dependent on "time" and is a fair value for the option Seller. The applicant refers to such an option as an

"expirationless option."" (Col. 4, lines 1-7).

Also, "Accordingly, the present invention uses the expiring option premium algorithms to discount the effect of "time" according to the following process: (1) the exercise price is set equal to the current price of the asset and (2) the option premium is set equal to the margin requirement for the asset." (Col. 7, lines 12-16).

Further, Claim 1 of Daughtery recites: "A computer implemented method for valuing an instrument, comprising: receiving data associated with a financial instrument; processing the data using a processor to determine an expirationless option value for the financial instrument using an expirationless option, the expirationless option value being less than an underlying asset value of the instrument; and computing a value for the financial instrument using the expirationless option value instead of the underlying asset value in an option pricing algorithm."

C) Arguments

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

1) The Examiner's arguments in general

In the papers filed July 31, 2007 and November 13, 2007, Appellant respectfully submitted that the Examiner failed to adequately or specifically address the following arguments raised in Appellant's January 17, 2007 paper: Daughtery does not teach a customized indexed call option; Daughtery does not teach a term for an option; Daughtery does not teach more than one underlying for an option; and Daughtery does not teach switching underlyings. Instead, the Examiner has cited blocks of Daughtery without providing any arguments as to how the citations are particularly applicable.

2) Claim 1

a) Daughtery does not teach a customized call option

Claim 1 recites: "A computer-based method for determining a value of a customized indexed call option, comprising: a) selecting, using a processor in at least one specially programmed computer, a range from the group consisting of a range between a first lattice node with an index

value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry, wherein the first lattice node, the second lattice node, the first epoch, and the second epoch are stored in a memory element for the at least one computer; b) searching, using the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option; c) interpolating, using the processor, in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option, stored in the memory element, to find said value;"

There is no teaching, suggestion, or motivation in Daughtery regarding the customized indexed call option recited in Claim 1. Specifically, according to the limitations of Claim 1, the option holder can choose different notional amounts at various times during the option term and still be guaranteed a nonnegative return. Further, paragraph [0014] of the specification for the instant application provides further definition for a customized indexed call option. Daughtery has no such teaching, suggestion, or motivation.

b) Daughtery does not teach a lattice recursion

Claims 1 recites: "b) searching, using the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option;" as supported by paragraph [0023] of the specification for the instant application. Daughtery has no such teaching, suggestion, or motivation.

c) Daughtery does not teach an option with a term

Claim 1 recites: "wherein said customized indexed call option *comprises a term* and an index linkage to an index and a constant growth rate." (emphasis added)

In contrast, the very heart of Daughtery's teachings is a "timeless" or "expirationless option." For example: "Therefore, there exists a need in the art for a technique to limit the risk that an option purchaser must assume, which at the same time, is not unfair to the option Seller. More specifically, there exists a need in the art for an apparatus and process for calculating an option **which is not dependent on "time"** and is a fair value for the option Seller. **The applicant refers to such an option as an "expirationless option.**"" (Col. 4, lines 1-7). (emphasis added)

"Accordingly, **the present invention uses the expiring option premium algorithms to discount the effect of "time"** according to the following process: (1) the exercise price is set equal to the current price of the asset and (2) the option premium is set equal to the margin requirement for the asset." (Col. 7, lines 12-16). Further, Claim 1 of Daughtery recites: "A computer implemented method for valuing an instrument, comprising: receiving data associated with a financial instrument; processing the data using a processor to determine an **expirationless** option value for the financial instrument using an **expirationless** option, the **expirationless** option value being less than an underlying asset value of the instrument; and computing a value for the financial instrument using the **expirationless** option value instead of the underlying asset value in an option pricing algorithm." (emphasis added)

Thus, one underlying and irreconcilable difference between Daughtery and Claim 1 is Daughtery's sole focus on and sole teaching of expirationless options. This fact alone makes Daughtery nonanalogous and the teachings of Daughtery inapplicable to Claim 1.

d) Daughtery does not teach the ranges recited in Claim 1

Claim 1 recites: "a) selecting, using a processor in at least one specially programmed computer, a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and *a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry*, wherein the first lattice node, the second lattice node, the first epoch, and the second

epoch are stored in a memory element for the at least one computer;" (emphasis added)

Daughtery does not teach these ranges. In particular, Daughtery cannot and does not teach a range involving epochs because Daughtery is directed solely to an expirationless option. Epochs regarding a time to expiry are antithetical to Daughtery's teachings.

Appellant addresses the excerpts from Daughtery cited by the Examiner as follows:

i) Column 11 lines 20-37

Describes standard pricing algorithms for call options, none of which are applicable to pricing the customized indexed call option, in particular, to the search recited in Claim 1. Customized software, such as disclosed in the present application, is necessary to implement the data search recited in Claim 1. Standard software, using the Black-Scholes formula and the other algorithms cited in this excerpt are not suitable.

ii) Column 12 lines 1-67

Describes Daughtery's implementation of the algorithm for pricing expirationless options. An expirationless option is not analogous to the option recited in Claim 1, which has a clearly recited term. That is, an expirationless option is meaningless and inapplicable with respect to the ranges recited in Claim 1, which form the basis of the search recited in Claim 1. For example, the limitation cited *supra* recites a term: "and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry" Therefore, the above citation from Daughtery in not applicable to Claim 1.

iii) Column 18 lines 1-67

Describes Daughtery's calculations for the value of an expirationless option. As noted *supra*, an expirationless option is not analogous to the option recited in Claim 1. Further, this excerpt is not enabling because it contains an internal inconsistency; that is, teaching the time until expiry for an expirationless option - a paradox. The calculations discussed in this excerpt are not relevant to the customized indexed call option and cannot be used to price the call option. For example, the table at the top of column 18 makes it clear that the expirationless option does not have a term, in complete contrast to the customized indexed call option recited in Claim 1, which as noted *supra*, has a clearly recited term.

iv) Column 20 lines 43-67

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema,* 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. **>Mayo Found. For Med. Educ. & Research<*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) MPEP 2121.01

This excerpt asserts that Daughtery's invention can be used to price many different types of options; however, there is no support provided for this assertion. That is, at best, this assertion is an unsubstantiated "hoped for result." Assuming *arguendo* that there is any validity to Daughtery's unsubstantiated claims, which there is not, there is still no teaching in this excerpt that is applicable to the customized indexed call option recited in Claim 1, since the fundamental basis of all of Daughtery's assertions is an expirationless option calculation, which appears (Column 19, lines 1-54) to be based on a rearrangement of the Black-Scholes formula. The Black-Scholes formula does not apply to a customized indexed call option as recited in Claim 1, at least because it does not allow for a switch between the underlyings (the index and the constant growth rate) as is recited in Claim 1; therefore neither do Daughtery's calculations apply to the option recited in Claim 1.

v) Columns 21-24 lines 1-67

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema,* 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. **>Mayo Found. For Med. Educ. & Research<*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) MPEP 2121.01

This text claims that all possible financial instruments are covered by the Daughtery patent. The above discussion regarding col. 20 is applicable to this text as well. That is, Daughtery is teaching an unsubstantiated 'hoped for result.' As noted *supra*, at least because Daughtery only teaches an expirationless option and does not and cannot address options with the ability to switch between multiple underlyings, Daughtery does not and cannot teach, suggest, or motivate the option recited in Claim 1.

vi) Column 25-26, lines 1-40

Columns 25 and 26 include a portion of claim 4 to claim 11 of Daughtery. As noted above, Appellant has been given no indication as to which parts of the claims are allegedly of interest. The claims are all directed to an expirationless option. Claim 1 recites a range including a time of expiry for the customized call option. An expirationless option and a time of expiry are mutually exclusive; therefore, at least on this basis, the claims in Daughtery are not applicable to Claim 1.

e) Daughtery does not teach the searching recited in Claim 1

Claim 1 recites: "b) searching, using the processor, a lattice data structure, stored in the memory element, by applying said range from said group to said lattice data structure to identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option;"

Appellant addresses the excerpts from Daughtery cited by the Examiner regarding the above claim limitation as follows:

i) Abstract

The Abstract states: "The present invention introduces an apparatus and process which may be implemented on a vast variety of computer systems. The apparatus and process of the present invention use a computer system to receive and store data representative of a particular asset, a type of option (call or put), requested exercise price and a multitude of other variables related to the asset. The apparatus and process then generate data representative of an option premium. The data representative of the option may then be used for transacting an option, as the basis for determining a correlated expiring option premium, or to determine the premium of an asset relatable to a corresponding option."

Appellant can find no teaching regarding any type of search, in particular, the searching recited in Claim 1.

ii) Column 6 lines 31-67

States that the Daughtery invention can be used to "take advantage of the inefficiency associated with the unscientifically selected margin requirements" - i.e. to optimize margin positions held together with standard puts or calls by recasting them in terms of expirationless options. For example, claim 1 of Daughtery recites calculation of an expirationless option value. Claim 1 does not recite an expirationless option and at least for that reason Daughtery cannot teach interpolation to find intermediate value for such an option. Further, these lines in Daughtery do not teach a search to find an intermediate value for the customized call option. These lines are primarily directed toward discounting the effect of time for a "timeless" option.

iii) Columns 7 line 1 to column 8 line 67

In the Office Action, the citation was given as "column 7 lines -8 lines 1-76." Appellant has interpreted this citation as shown above. These lines describe the Daughtery invention in more detail, but provide no teaching regarding the searching recited in Claim 1.

f) Daughtery does not teach the interpolation recited in Claim 1

Claim 1 recites: "c) interpolating, using the processor, in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option, stored in the memory element, to find said value;"

Appellant addresses the excerpts from Daughtery cited by the Examiner regarding the above claim limitation as follows:

i) Abstract

The Abstract states: "The present invention introduces an apparatus and process which may be implemented on a vast variety of computer systems. The apparatus and process of the present invention use a computer system to receive and store data representative of a particular asset, a type of option (call or put), requested exercise price and a multitude of other variables related to the asset. The apparatus and process then generate data representative of an option premium. The data representative of the option may then be used for transacting an option, as the basis for determining

a correlated expiring option premium, or to determine the premium of an asset relatable to a corresponding option."

Appellant can find no teaching regarding any type of interpolation, in particular, the interpolation recited in Claim 1.

ii) Column 6 lines 31-67

States that the Daughtery invention can be used to "take advantage of the inefficiency associated with the unscientifically selected margin requirements" - i.e. to optimize margin positions held together with standard puts or calls by recasting them in terms of expirationless options. For example, Claim 1 of Daughtery recites calculation of an expirationless option value. Claim 1 does not recite an expirationless option and at least for that reason Daughtery cannot teach interpolation to find intermediate value for such an option. Further, these lines in Daughtery do not teach the parameters and interpolating cited in Claim 1 to find the intermediate value for the customized indexed call option. These lines are primarily directed toward discounting the effect of time for a "timeless" option.

iii) Columns 7 line 1 to column 8 line 67

In the Office Action, the citation was given as "column 7 lines -8 lines 1-76." Appellant has interpreted this citation as shown above. These lines describe the Daughtery invention in more detail, but provide no teaching regarding the interpolating recited in Claim 1.

g) Daughtery does not teach a term for an option

Claim 1 recites: "wherein said customized indexed call option comprises a term..." As noted *supra*, Daughtery does not teach an option with a term. *In fact, Daughtery's entire focus is on an expirationless term.*

Appellant addresses the excerpts from Daughtery cited by the Examiner regarding the above claim limitation as follows:

i) Abstract

The Abstract states: "The present invention introduces an apparatus and process which may be implemented on a vast variety of computer systems. The apparatus and process of the present invention use a computer system to receive and store data representative of a particular asset, a type

of option (call or put), requested exercise price and a multitude of other variables related to the asset. The apparatus and process then generate data representative of an option premium. The data representative of the option may then be used for transacting an option, as the basis for determining a correlated expiring option premium, or to determine the premium of an asset relatable to a corresponding option."

Appellant can find no teaching regarding the term recited in Claim 1.

ii) Column 6 lines 31-67

States that the Daughtery invention can be used to "take advantage of the inefficiency associated with the unscientifically selected margin requirements" - i.e. to optimize margin positions held together with standard puts or calls by recasting them in terms of expirationless options. For example, Claim 1 of Daughtery recites calculation of an expirationless option value. These lines are primarily directed toward discounting the effect of time for a "timeless" option. In fact, Daughtery teaches the opposite of the term recited in Claim 1.

iii) Columns 7 line 1 to column 8 line 67

In the Office Action, the citation was given as "column 7 lines -8 lines 1-76." Appellant has interpreted this citation as shown above. These lines describe the Daughtery invention in more detail, but provide no teaching regarding the term recited in Claim 1.

h) Daughtery does not teach more than one underlying for an option

Claim 1 recites: "wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate."

That is, the option recited in Claim 1 has two underlyings (an index and a constant growth rate). In contrast, Daughtery teaches options with only a single underlying, for example, as recited in Claim 1 of Daughtery.

Appellant addresses the excerpts from Daughtery cited by the Examiner regarding the above claim limitation as follows:

i) Abstract

The Abstract states: "The present invention introduces an apparatus and process which may

be implemented on a vast variety of computer systems. The apparatus and process of the present invention use a computer system to receive and store data representative of a particular asset, a type of option (call or put), requested exercise price and a multitude of other variables related to the asset. The apparatus and process then generate data representative of an option premium. The data representative of the option may then be used for transacting an option, as the basis for determining a correlated expiring option premium, or to determine the premium of an asset relatable to a corresponding option."

Appellant can find no teaching regarding the multiple underlyings recited in Claim 1.

ii) Column 6 lines 31-67

States that the Daughtery invention can be used to "take advantage of the inefficiency associated with the unscientifically selected margin requirements" - i.e. to optimize margin positions held together with standard puts or calls by recasting them in terms of expirationless options. For example, Claim 1 of Daughtery recites calculation of an expirationless option value. Claim 1 does not recite an expirationless option and at least for that reason Daughtery cannot teach underlyings for such an option. These lines are primarily directed toward discounting the effect of time for a "timeless" option.

iii) Columns 7 line 1 to column 8 line 67

In the Office Action, the citation was given as "column 7 lines -8 lines 1-76." Appellant has interpreted this citation as shown above. These lines describe the Daughtery invention in more detail, but provide no teaching regarding the underlyings recited in Claim 1.

i) Daughtery does not teach switching between underlyings

Claim 1 recites: "d) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option...."

At least because, as shown *supra*, Daughtery does not teach an option with a term, Daughtery cannot teach the above claim limitation. For example, "predefined intervals during a term" is impossible with the expirationless option taught be Daughtery. Further, Appellant has shown that

Daughtery does not teach multiple underlyings; therefore, Daughtery cannot teach switching between multiple underlyings.

Appellant addresses the excerpts from Daughtery cited by the Examiner regarding the above claim limitation as follows:

i) Abstract

The Abstract states: "The present invention introduces an apparatus and process which may be implemented on a vast variety of computer systems. The apparatus and process of the present invention use a computer system to receive and store data representative of a particular asset, a type of option (call or put), requested exercise price and a multitude of other variables related to the asset. The apparatus and process then generate data representative of an option premium. The data representative of the option may then be used for transacting an option, as the basis for determining a correlated expiring option premium, or to determine the premium of an asset relatable to a corresponding option."

Appellant can find no teaching regarding any type of switch or underlying, in particular, the searching between underlyings recited in Claim 1.

ii) Column 6 lines 31-67

States that the Daughtery invention can be used to "take advantage of the inefficiency associated with the unscientifically selected margin requirements" - i.e. to optimize margin positions held together with standard puts or calls by recasting them in terms of expirationless options. For example, Claim 1 of Daughtery recites calculation of an expirationless option value. Claim 1 does not recite an expirationless option. Instead, and in contrast to Daughtery's teachings, Claim 1 recites a customized indexed call options **with a term, with more than one underlying one of which is a constant growth rate, and with the option to switch between the underlyings at predetermined times during the term**. Daughtery's expirationless option does not have a term and therefore cannot switch at predefined intervals; does not have a constant growth rate, and does not have more than one underlying and therefore cannot switch between "said index and said constant growth rate."

iii) Columns 7 line 1 to column 8 line 67

In the Office Action, the citation was given as "column 7 lines -8 lines 1-76." Appellant has

interpreted this citation as above. These lines describe the Daughtery invention in more detail, but provide no teaching regarding switching between underlyings.

For all the reasons noted *supra*, each and every element as set forth in Claim 1 is not found, either expressly or inherently described, in Daughtery. Therefore, Claim 1 is novel with respect to Daughtery. Claims 2 and 3, dependent from Claim 1, enjoy the same distinction with respect to Daughtery.

3) Claim 17

Claim 17 is an apparatus claim paralleling Claim 1; therefore, the arguments regarding Claim 1 are applicable to Claim 17 and Claim 17 is novel with respect to Daughtery. Claims 18 and 19, dependent from Claim 17, enjoy the same distinction with respect to Daughtery.

4) Claim 4

a) Daughtery does not teach a term for an option

Claim 4 recites: "a customized indexed call option with a specified term.." Appellant has shown *supra* in the arguments for Claim 1 that Daughtery teaches only an expirationless term and does not teach a term for an option.

b) Daughtery does not teach intervals in an option term

Claim 4 recites: "and specified notional amount *n* operatively arranged to allow an investor to choose notional amounts *n0* and *n1* at *specified intervals* within the term..." As noted *supra*, Daughtery does not teach a term for an option; therefore, Daughtery cannot teach intervals for an option term.

c) Daughtery does not teach multiple underlyings

In Claim 4 there are two underlyings (the specified interest rate associated with notional amount *n0* and the index associated with notional amount *n1*). As shown *supra*, Daughtery does not teach multiple underlyings.

Appellant summarily addresses the excerpts from Daughtery cited by the Examiner as follows. These same excerpts were cited in the rejection of Claim 1 and for the sake of brevity, Appellant refers to the arguments regarding Claim 1 for a full discussion of the excerpts:

i) Column 11 lines 20-37

Describes standard pricing algorithms for call options, none of which are applicable to pricing the customized indexed call option recited in Claim 4. Standard software, using the Black-Scholes formula and the other algorithms cited in this excerpt are not suitable.

ii) Column 12 lines 1-67

Describes Daughtery's implementation of the algorithm for pricing expirationless options. An expirationless option is not analogous to the option recited in Claim 4, which has a clearly recited term.

iii) Column 18 lines 1-67

Describes Daughtery's calculations for the value of an expirationless option. As noted *supra*, an expirationless option is not analogous to the option recited in Claim 4.

iv) Column 20 lines 43-67

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema,* 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. **>Mayo Found. For Med. Educ. & Research<*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) MPEP 2121.01

This excerpt asserts that Daughtery's invention can be used to price many different types of options; however, there is no support provided for this assertion. That is, at best, this assertion is an unsubstantiated "hoped for result." Assuming *arguendo* that there is any validity to Daughtery's unsubstantiated claims, which there is not, there is still no teaching in this excerpt that is applicable to the customized indexed call option recited in Claim 4, since the fundamental basis of all of Daughtery's assertions is an expirationless option calculation, which appears (Column 19, lines 1-54) to be based on a rearrangement of the Black-Scholes formula. The Black-Scholes formula does not apply to a customized indexed call option as recited in Claim 4, at least because it does not allow for a switch between underlyings as is recited in Claim 4; therefore neither do Daughtery's

calculations apply to the option recited in Claim 4.

v) Columns 21-24 lines 1-67

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema,* 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v.* **>*Mayo Found. For Med. Educ. & Research*<, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) MPEP 2121.01

This text claims that all possible financial instruments are covered by the Daughtery patent. The above discussion regarding col. 20 is applicable to this text as well. That is, Daughtery is teaching an unsubstantiated 'hoped for result.' As noted *supra*, at least because Daughtery only teaches an expirationless option and does not and cannot address options with the ability to switch between multiple underlyings, Daughtery does not and cannot teach, suggest, or motivate the option recited in Claim 4.

vi) Column 25-26, lines 1-40

Columns 25 and 26 include a portion of claim 4 to claim 11 of Daughtery. As noted above, Appellant has been given no indication as to which parts of the claims are allegedly of interest. The claims are all directed to an expirationless option. Claim 4 recites a range including a time of expiry for the customized call option. An expirationless option and a time of expiry are mutually exclusive; therefore, at least on this basis, the claims in Daughtery are not applicable to Claim 4.

For all the reasons noted *supra*, each and every element as set forth in Claim 4 is not found, either expressly or inherently described, in Daughtery. Therefore, Claim 4 is novel with respect to Daughtery.

5) Claim 5

a) Daughtery does not teach a term for an option

Claim 5 recites: "a customized indexed call option with a specified term..." Appellant

has shown *supra* in the arguments for Claim 1 that Daughtery teaches only an expirationless term and does not teach a term for an option.

b) Daughtery does not teach intervals in an option term

Claim 5 recites: "and specified notional amount *n* operatively arranged to allow an investor to choose notional amounts n_i at specified intervals within the term ..." As noted *supra*, Daughtery does not teach a term for an option; therefore, Daughtery cannot teach intervals for an option term.

c) Daughtery does not teach multiple underlyings

In Claim 5 there are at least two underlyings and possibly more. The first is the specified interest rate associated with notional amount n_0, and the rest are the indices associated with notional amounts n_1 through n_k. Daughtery does not teach multiple underlyings.

Appellant summarily addresses the excerpts from Daughtery cited by the Examiner as follows. These same excerpts were cited in the rejection of Claim 1 and for the sake of brevity, Appellant refers to the arguments regarding Claim 1 for a full discussion of the excerpts:

i) Column 11 lines 20-37

Describes standard pricing algorithms for call options, none of which are applicable to pricing the customized indexed call option recited in Claim 5. Standard software, using the Black-Scholes formula and the other algorithms cited in this excerpt are not suitable.

ii) Column 12 lines 1-67

Describes Daughtery's implementation of the algorithm for pricing expirationless options. An expirationless option is not analogous to the option recited in Claim 5, which has a clearly recited term.

iii) Column 18 lines 1-67

Describes Daughtery's calculations for the value of an expirationless option. As noted *supra*, an expirationless option is not analogous to the option recited in Claim 5.

iv) Column 20 lines 43-67

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a

reference contains an 'enabling disclosure'... ." *In re Hoeksema,* 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. **>Mayo Found. For Med. Educ. & Research<*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) MPEP 2121.01

This excerpt asserts that Daughtery's invention can be used to price many different types of options; however, there is no support provided for this assertion. That is, at best, this assertion is an unsubstantiated "hoped for result." Assuming *arguendo* that there is any validity to Daughtery's unsubstantiated claims, which there is not, there is still no teaching in this excerpt that is applicable to the customized indexed call option recited in Claim 5, since the fundamental basis of all of Daughtery's assertions is an expirationless option calculation, which appears (Column 19, lines 1-54) to be based on a rearrangement of the Black-Scholes formula. The Black-Scholes formula does not apply to a customized indexed call option as recited in Claim 5, at least because it does not allow for a switch between underlyings as is recited in Claim 5; therefore neither do Daughtery's calculations apply to the option recited in Claim 5.

v) Columns 21-24 lines 1-67

"In determining that quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the stated test is whether a reference contains an 'enabling disclosure'... ." *In re Hoeksema,* 399 F.2d 269, 158 USPQ 596 (CCPA 1968). The disclosure in an assertedly anticipating reference must provide an enabling disclosure of the desired subject matter; mere naming or description of the subject matter is insufficient, if it cannot be produced without undue experimentation. *Elan Pharm., Inc. v. **>Mayo Found. For Med. Educ. & Research<*, 346 F.3d 1051, 1054, 68 USPQ2d 1373, 1376 (Fed. Cir. 2003) MPEP 2121.01

This text claims that all possible financial instruments are covered by the Daughtery patent. The above discussion regarding col. 20 is applicable to this text as well. That is, Daughtery is teaching an unsubstantiated 'hoped for result.' As noted *supra*, at least because Daughtery only

teaches an expirationless option and does not and cannot address options with the ability to switch between multiple underlyings, Daughtery does not and cannot teach, suggest, or motivate the option recited in Claim 5.

vi) Column 25-26, lines 1-22

Columns 25 and 26 include a portion of claim 4 to claim 10 of Daughtery. As noted above, Appellant has been given no indication as to which parts of the claims are allegedly of interest. The claims are all directed to an expirationless option. Claim 5 recites a range including a time of expiry for the customized call option. An expirationless option and a time of expiry are mutually exclusive; therefore, at least on this basis, the claims in Daughtery are not applicable to Claim 5.

For all the reasons noted *supra*, each and every element as set forth in Claim 5 is not found, either expressly or inherently described, in Daughtery. Therefore, Claim 5 is novel with respect to Daughtery.

6) Claims 6-10 and 20

Each of Claims 6-10 and 20 recite: "presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate."

This is the same limitation recited in Claim 1. Therefore, the arguments for Claim 1 regarding this limitation are applicable to Claims 6-10 and 20 and for the sake of brevity are not repeated here. Claims 6-10 and 20 are novel with respect to Daughtery.

Claims 11-16, dependent from Claim 10, enjoy the same distinction with respect to Daughtery. Claims 21 through 23, dependent from Claim 20, enjoy the same distinction with respect to Daughtery.

4) Whether the language "presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said

constant growth rate at predefined intervals during a term for said customized indexed call option," as recited in Claims 1, 6-10, 17, and 20 is limiting?

A) Summary of the Rejection:

The Examiner stated in the Office Action: "Applicant's claims 1, 6-10, 17, 20, states "presenting an option for a holder of the customized indexed call option to switch between said index" However the subject matter of a properly construed claim is defined by the terms that limit its scope. It is this subject matter that must be examined. As a general matter, the grammar and intended meaning of terms used in a claim will dictate whether the language limits the claim scope. Language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation. The following are examples of language that may raise a question as to the limiting effect of the language in a claim:

(A) statements of intended use or field of use,

(B) "adapted to" or "adapted for" clauses,

(C) "wherein" clauses, or

(D) "whereby" clauses.

This list of examples is not intended to be exhaustive. See also MPEP § 21 11.04.

**>USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55,44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily). In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541,550- 551 (CCPA 1969). See also In re Zletz, 893 F.2d 31 9,321 -22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow .... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed .... An essential purpose of patent examination is to fashion claims that are

precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.").<

Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. Toro Co. v. White Consolidated Industries Inc., 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a "lexicographic vacuum, but in the context of the specification and drawings."). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." Multiform Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429,1432 (Fed. Cir. 1998). See also MPEP § 21 11.01."

B) Brief description of the reference cited by the Primary Examiner

The Examiner failed to cite any applicable law or rule that would govern or make relevant the point made by the Examiner. In fact, it is unclear if the Examiner is making a rejection, an objection, or merely an observation. In the interest of brevity and because Appellant fails to see the relevancy of the cited case law, Appellant has not presented further excerpts from the cited case law or presented any further description of the case law.

C) Arguments

1. The claims do not recite an intended use

It appears the Examiner is questioning the following limitation of Claims 1, 6-10, 17, and 20: "presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option," Specifically, the Examiner appears to be stating that the above claim limitation is regarding an intended use, since the limitation is clearly not an "adapted to" or "adapted for" clause, a "wherein" clauses, a "whereby" clause, or any clause of that ilk.

The Examiner's assertion is incorrect. The above limitation clearly presents a method step of presenting on a graphical user interface an option to switch between underlyings. That is, the step recites an action with a concrete and tangible result. The limitation further defines intervals

associated with the option. There is no intended use – a method step is clearly and unequivocally recited.

2. Limitations regarding an option to switch

It appears the Examiner is questioning the following limitation of Claims 1, 6-10, and 17: "presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option,"

This clause clearly recites a method step of presenting an option. This limitation is not directed to the holder but rather to an interface. The limitation is in no way dependent upon an action by the holder. Further, there is nothing in the recitation of this step that enables this step to be construed as optional.

3. Limitations regarding wherein clauses

Claims 1, 6, 8-10, 17, and 20 recite: "wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate"

The Examiner appears to be questioning the limiting effect of the above clause, based on the recitation of "wherein" in this clause. Specifically, the Examiner appears to be asserting that the recitation of "wherein" automatically or inherently makes the limitations in the above clauses optional.

MPEP2111.04 states: "Claim scope is not limited by claim language that suggests or makes optional but does not require steps to be performed, or by claim language that does not limit a claim to a particular structure."

There is nothing optional about "wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate" Further; this limitation clearly recites the structure of the call option.

MPEP 2111.04 states: "The determination of whether each of these clauses is a limitation in a claim depends on the specific facts of the case. In *Hoffer v. Microsoft Corp.*, 405 F.3d 1326, 1329, 74 USPQ2d 1481, 1483 (Fed. Cir. 2005), the court held that when a "'whereby' clause states a condition that is material to patentability, it cannot be ignored in order to change the substance of the

invention." *Id.* However, the court noted (quoting *Minton v. Nat'l Ass'n of Securities Dealers, Inc.*, 336 F.3d 1373, 1381, 67 USPQ2d 1614, 1620 (Fed. Cir. 2003)) that a "'whereby clause in a method claim is not given weight when it simply expresses the intended result of a process step positively recited.'" *Id.*<"

The clear focus of this section of the MPEP is on clauses that express an intended result. In particular, the focus is on "whereby" clauses that express an intended result. Assuming that this focus could be extended to "wherein" clauses that express an intended result, the wherein clause of the above claims still does not express an intended result, for example, of a method claim.

The Examiner stated: "**>USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55,44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997)." Appellant fails to see the significance of this citation. There is nothing in the instant application that in any way questions the limitations recited in the above claims.

The Examiner also stated: "Limitations appearing in the specification but not recited in the claim should not be read into the claim. E-Pass Techs., Inc. v. 3Com Corp., 343 F.3d 1364, 1369, 67 USPQ2d 1947, 1950 (Fed. Cir. 2003) (claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily).In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-551 (CCPA 1969). See also In re Zletz, 893 F.2d 319,321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989) ("During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow .... The reason is simply that during patent prosecution when claims can be amended, ambiguities should be recognized, scope and breadth of language explored, and clarification imposed .... An essential purpose of patent examination is to fashion claims that are precise, clear, correct, and unambiguous. Only in this way can uncertainties of claim scope be removed, as much as possible, during the administrative process.").<"

Apparently, the Examiner is asserting that Appellant is arguing a limitation from the specification that is not recited in the claims. The Examiner failed to provide an example of such an argued limitation. The Examiner's assertion is unfounded and incorrect. Appellant has given excerpts from the specification of the instant application that fully support the limitations of the

claims in the instant application.

The Examiner stated: "Where an explicit definition is provided by the applicant for a term, that definition will control interpretation of the term as it is used in the claim. Tor0 Co. v. White Consolidated Industries lnc., 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999) (meaning of words used in a claim is not construed in a "lexicographic vacuum, but in the context of the specification and drawings."). Any special meaning assigned to a term "must be sufficiently clear in the specification that any departure from common usage would be so understood by a person of experience in the field of the invention." Multiform Desiccants Inc. v. Medzam Ltd., 133 F.3d 1473, 1477, 45 USPQ2d 1429, 1432 (Fed. Cir. 1998). See also MPEP § 21 11.01."

The Examiner is apparently asserting that Appellant has failed to properly define a term used in the claims. Again, the Examiner failed to provide a specific example supporting the relevancy of the above citation. The Examiner's assertion is unfounded and incorrect. Appellant has given excerpts from the specification of the instant application that fully support the terms used in the claims in the instant application.

Appellant respectfully submits that item number 4 of the GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL has no bearing on the allowability of Claims 1, 6-10, 17, or 20.

CONCLUSION

For the reasons set forth above, Appellant respectfully submits that Claims 1, 6-10, 17, and 20 under 35 U.S.C. §101 are directed to statutory subject matter. Accordingly, Appellant prays that this Honorable Board will reverse the Examiner's rejection of Claims 1, 6-10, 17, and 20.

For the reasons set forth above, Appellant respectfully submits that Claims 1 and 17 under 35 U.S.C. §112, second paragraph are definite and particularly point out and distinctly claim the subject matter which Appellant regards as the invention. Accordingly, Appellant prays that this Honorable Board will reverse the Examiner's rejection of Claims 1 and 17.

For the reasons set forth above, Appellant respectfully submits that Claims 1-23 are novel under 35 U.S.C. § 102(e) and therefore patentable over U.S. Patent No. 7,024,384 (Daughtery). Accordingly, Appellant prays that this Honorable Board will reverse the Examiner's rejection of Claims 1-23.

For the reasons set forth above, Appellant respectfully submits that the language "presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option," in Claims 1, 6-10, 17, and 20 is limiting. Accordingly, Appellant prays that this Honorable Board will reverse any impediment to allowability of Claims 1-23 posed by the Examiner's observations with respect to the above language.

Respectfully submitted,

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Dated: January 3, 2008
CPM/
Attachment

CLAIMS APPENDIX

Reprinted herebelow are the claims involved in this appeal:

WHAT IS CLAIMED IS:

1. (currently amended) A computer-based method for determining a value of a customized indexed call option, comprising:

a) selecting, using a processor in at least one specially programmed computer, a range from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry, wherein the first lattice node, the second lattice node, the first epoch, and the second epoch are stored in a memory element for the at least one computer;

b) searching, using the processor, a lattice data structure, stored in the memory element, ~~based on said range from the group~~ by applying said range from said group to said lattice data structure to ~~determine~~ identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option;

c) interpolating, using the processor, in said at least one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option, stored in the memory element, to find said value; and,

d) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

2. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 1 wherein said search criterion comprises a set of predetermined parameters of the customized indexed call option.

3. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 1 wherein said data structure is initialized based on a second predetermined set of parameters.

4. (original) An article of manufacture comprising a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts $n0$ and $n1$ at specified intervals within the term such that $n0>=0$, $n1>=0$, and $n0+n1 \leq n$, while guaranteeing nonnegative total credited interest over the term, where interest credited on the notional amount $n0$ is based upon an arbitrary but specified nonzero interest rate, and interest on the notional amount $n1$ is credited based on changes in a specified index.

5. (original) An article of manufacture comprising a customized indexed call option with a specified term and specified notional amount n operatively arranged to allow an investor to choose notional amounts n_i at specified intervals within the term such that i is an integer such that $0 \leq i \leq k$, $n_i \geq 0$, and $\Sigma n_i \leq n$, while guaranteeing nonnegative total credited interest over the term, where interest credited on the notional amount n_0 is based upon an arbitrary but specified nonzero interest rate, and interest on the notional amount n_i, $i \geq 1$, is credited based on changes in specified index i, where k, the number of specified indices, is an integer greater than or equal to one.

6. (currently amended) A computer-based method for determining a value of a customized indexed annuity with guaranteed return amount G, comprising:

a) determining, using a processor in at least one specially programmed computer, a value of a customized indexed call option;

b) determining, using the processor, a present value of the guaranteed return amount G; and,

c) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant

growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

7. (currently amended) A computer-based method for determining a value of a customized indexed certificate of deposit with guaranteed return amount G, comprising:

a) determining, using a processor in at least one specially programmed computer, a value of a customized indexed call option;

b) determining, using the processor, a present value of the guaranteed return amount G; and,

c) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

8. (currently amended) A computer-based method for determining a value of a customized indexed life insurance policy with guaranteed return amount G, comprising:

a) determining, using a processor in at least one specially programmed computer, a value of a customized indexed call option;

b) determining, using the processor, a present value of the guaranteed return amount G; and,

c) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

9. (currently amended) A computer-based method for determining a value of a customized indexed bond with guaranteed return amount G, comprising:

a) determining, using a processor in at least one specially programmed computer, a value of a customized indexed call option;

b) determining, using the processor, a present value of the guaranteed return amount G; and,

c) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

10. (currently amended) A computer-based method for determining a value of a customized indexed call option, comprising:

a) generating, using a processor in at least one specially programmed computer, a first sample of index paths based on a first set of predetermined parameters;

b) determining, using the processor, an optimal choice boundary maximizing an intermediate value of said customized indexed call option for such first sample of index paths;

c) determining, using the processor, said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters; and,

d) presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

11. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 10 wherein said samples of index paths are randomly generated from distributions specified by the first set of predetermined parameters.

12. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 10 wherein said samples of index paths are quasi-randomly generated from distributions specified by the first set of predetermined parameters.

13. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 10 wherein said first sample of index paths and said second sample of index paths are identical.

14. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 10 wherein said first sample of index paths and said second sample of index paths differ.

15. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 10 wherein said samples of index paths are generated for one index.

16. (original) A computer-based method for determining a value of a customized indexed call option as recited in claim 10 wherein said samples of index paths are generated for multiple indices.

17. (currently amended) An apparatus for determining a value of a customized indexed call option, comprising:

a) means for selecting a range, the means for selecting including a processor in at least one specially programmed computer, from the group consisting of a range between a first lattice node with an index value no greater than an index value for said customized indexed call option and a second lattice node with an index value at least equal to said index value for said customized indexed call option, and a range between a first epoch with a time no greater than a time to expiry for said customized indexed call option and a second epoch with a time at least equal to said time to expiry wherein the first lattice node, the second lattice node, the first epoch, and the second epoch are stored in a memory element for the at least one computer;

b) means for searching, the means for searching including the processor, a lattice data structure, stored in the memory element, ~~based on said range from the group~~ by applying said range from said group to said lattice data structure to ~~determine~~ identify at least one value in the lattice data structure included in said range, the at least one value comprising at least one intermediate value of said customized indexed call option;

c) means for interpolating, the means for interpolating including the processor, in said at least

one intermediate value of said customized indexed call option based on a set of predetermined parameters of the customized indexed call option to find said value; and,

d) means for presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

18. (original) The apparatus recited in Claim 17 wherein said means for searching a data structure comprises a general purpose computer specially programmed to search said data structure based on said search criterion to determine at least one intermediate value of said customized indexed call option.

19. (original) The apparatus recited in Claim 17 wherein said means for interpolating in said at least one intermediate value of said customized indexed call option comprises a general purpose computer specially programmed to perform said interpolation.

20. (currently amended) An apparatus for determining a value of a customized indexed call option, comprising:

a) means for generating, the means for generating including a processor in at least one specially programmed computer, a first sample of index paths based on a first set of predetermined parameters;

b) means for determining an optimal choice boundary maximizing an intermediate value of said customized indexed call option for such first sample of index paths, the means for determining an optimal choice boundary including the processor;

c) means for determining said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters, the means for determining said value including the processor; and,

d) means for presenting, on a graphical user interface for the at least one computer, an option for a holder of the customized indexed call option to switch between said index and said

constant growth rate at predefined intervals during a term for said customized indexed call option, wherein said customized indexed call option comprises a term and an index linkage to an index and a constant growth rate.

21. (original) The apparatus recited in Claim 20 wherein said means for generating a first sample of index paths based on a first set of predetermined parameters comprises a general purpose computer specially programmed to generate said first sample of index paths.

22. (original) The apparatus recited in Claim 20 wherein said means for determining an optimal choice boundary maximizing an intermediate value of said customized indexed call option for such first sample of index paths comprises a specially programmed general purpose computer.

23. (original) The apparatus recited in Claim 20 wherein said means for determining said value of said customized indexed call option from said determined optimal choice boundary and a second sample of index paths and a second set of predetermined parameters comprises a specially programmed general purpose computer.

EVIDENCE APPENDIX

No evidence is submitted at this time.

RELATED PROCEEDINGS APPENDIX

No related proceedings are submitted at this time.